

# Mandibular Mass Revealing Vesicular Thyroid Carcinoma A Case Report

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**Abstract:-** Mandibular metastases are rare, accounting for approximately 1% of all malignant tumors of the oral cavity. The most frequent primary tumors are lung in men and breast in women. We report the case of a female patient, aged 60 years, with no particular pathological history. She presented with a left mandibular swelling, aesthetically discomforting. The examination of the cervical region showed an anterior cervical swelling, A cervical ultrasound was ordered and showed a multiheteronodular goiter with the largest nodule. The CT scan showed a tumor process in the left masticatory space, hypervascularized and completely lysing the ramus of the mandible, Manuscript without author details. The final anatomopathological examination concluded to a vesicular thyroid carcinoma with mandibular metastasis. The decision of the multidisciplinary consultation meeting was to perform a total thyroidectomy with bilateral mediastino-recurrential with left hemimandibulectomy was indicated.

**Keywords:-** Mandibular Metastase; Vesicular Thyroid Carcinoma; Hemi-Mandibulectomy; Iratherapy With Radioactive Iodine 131

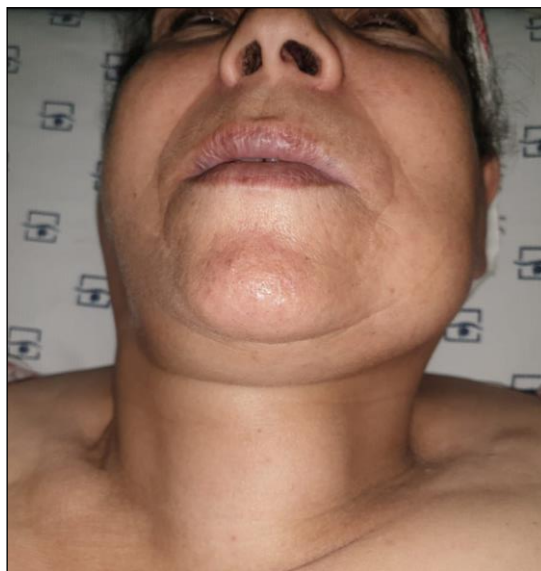
## I. INTRODUCTION

Mandibular metastases are rare, accounting for approximately 1% of all malignant tumors of the oral cavity [1]. The most frequent primary tumors are lung in men and breast in women [2]. Thyroid carcinoma represents about 3% of all oral metastatic carcinomas [2]. They are mainly located in the molar region, which is more vascularized than the anterior region [3]. These lesions pose diagnostic problems, particularly in the recognition of the metastatic nature and in the discovery of the primary lesion. Eight cases of mandibular metastases are presented and the anatomoclinical, radiological and therapeutic aspects of these tumors are discussed. [4]

## II. CASE PRESENTATION

We report the case of a female patient, aged 60 years, with no particular pathological history. She presented with a left mandibular swelling, anesthetically discomforting, appearing for 3 months, painless, progressively increasing in volume, with conservation of the general state (Figure 1).

The maxillofacial examination revealed a swelling opposite the horizontal branch of the left hemimandibular hard to palpate, measuring 4 cm in length. The homolateral labiomental sensitivity was preserved and the skin was normal (Figure 1). The examination of the cervical region showed an anterior cervical swelling, 7 cm long, ascending on swallowing, sensitive to palpation, with regular contours and limits, firm consistency, irregular surface, without palpable cervical adenopathy.



**Fig 1 : Metastatic Carcinoma of the Left Mandible from the Thyroid Gland.**

The rest of the general examination was not unusual. The preoperative blood workup (hemogram, ionogram, and blood cell count) was normal. A cervical ultrasound was ordered and showed a multiheteronodular goiter with the largest nodule measuring 4 cm, classified as Eutirads 4, the thyroid function test was normal. The CT scan showed a tumor process in the left masticatory space, hypervascularized and completely lysing the ramus of the mandible (Fig 2) (Fig 3).

The extension workup did not reveal any other localization. The decision of the multidisciplinary consultation meeting was to perform a total thyroidectomy with bilateral mediastino-recurrent lymph node dissection, with biopsy of the mandibular swelling. The postoperative course was simple. The final anatomopathological examination concluded to a 6.5 cm vesicular thyroid carcinoma with mandibular metastasis classified as PT3N0M1



**Fig 2 : CT Scan in Axial Section Through the Mandible in Parenchymal Window, Showing a Right Mandibular Lytic Tumor of Aggressive Look, Breaking Bone Cortical.**



**Fig 3 : Thyroid Nodules Suggestive of a Neoplastic Process.**

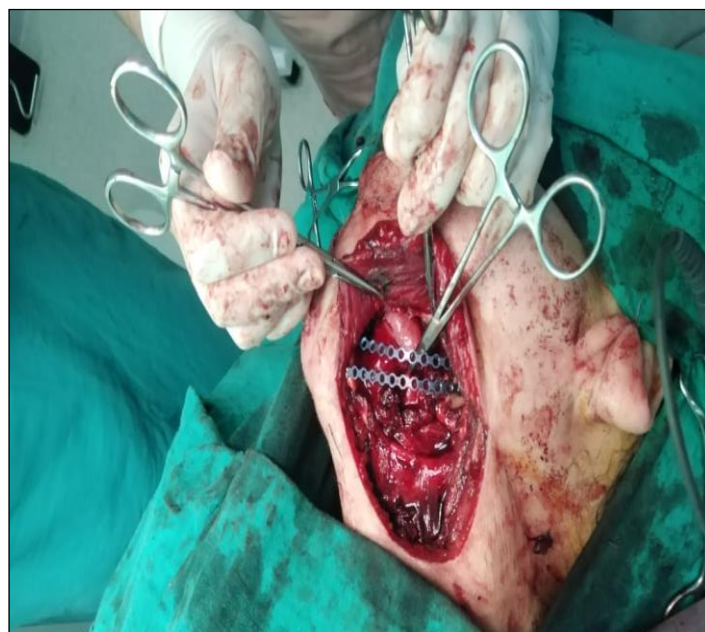
Conservative surgery was impossible for this patient. A left hemi-mandibulectomy was indicated (Fig 4). Reconstruction of the mandibular defect was performed during the same operation with two screwed plates.

Macroscopic examination of the surgical resection specimen revealed a well-limited swelling measuring 4 x 4 x 5 cm located 1.5 cm from the surgical section and 3.5 cm from the temporomandibular joint. On gross examination, the tumor was yellowish-white with a firm consistency with the presence of hemorrhagic suffusions (Fig. 4).

Microscopic examination of the surgical resection specimen, after kerosene embedding and hematein-eosin staining, revealed a diffuse carcinomatous proliferation infiltrating the bone. This tumor proliferation consisted of thyroid follicles, bordered by thyrocytes with enlarged, vesicular nuclei, showing some mitosis figures. This histological aspect was suggestive of a vesicular thyroid carcinoma located in the mandible.



**Fig 4: Surgical Resection Specimen.**



**Fig 5: Reconstruction of the Mandibular Defect with Two Screwed Plates**



### III. DISCUSSION

Mandibular metastases may be the first manifestation of an underlying occult malignancy from another primary site.[4]

Distant metastases of differentiated thyroid carcinomas are rare, the most common being lung and bone (vertebrae, pelvis and ribs). Oral metastases are exceptional representing about 1% of cancers of the oral region affecting more often the mandible than the maxilla, the tongue, the endobuccal mucosa, and are rather the prerogative of vesicular carcinomas because of the hematogenous propagation, these lesions are generally carcinomas rather than sarcomas.

The occurrence of vesicular thyroid carcinoma is mainly related to dietary iodine deficiency, in association with genetic factors. The increase of TSH, in case of iodine deficiency, would lead to stimulation and proliferation of thyroid cells, but our patient was euthyroid. [2]

The primary tumor is often asymptomatic and not diagnosed, this was the case of our patient who presented with mandibular swelling.

Metastatic tumor of the mandible can sometimes give a vague presentation or be entirely asymptomatic, which may go unnoticed or be discovered on radiographic examination of the bone. However, most often it manifests as a jaw mass as in the case of our patient who presented with cosmetic discomfort, jaw pain, toothache or tooth mobility, pathologic fracture of the mandible, or neurologic symptoms due to inferior alveolar nerve involvement resulting in paresthesia or numbness. [6]

However, Clausen and Poulsen [7] described the diagnostic criteria for metastatic lesions as follows: proven primary tumor with radiographic evidence and histopathological confirmation, mandibular metastasis with radiographic evidence and histopathological confirmation, histopathologic correlation of the metastatic lesion with the primary site. In case of proximity to the primary site, there should be a wide margin around the primary site to exclude direct extension from the primary site.

In our case, the histopathological presentation of the primary and metastatic lesion was similar.

These metastases worsen the prognosis with a 5-year survival rate of 40% and a 10-year survival rate of 27%.

Histologically, thyroid cancers are classified into four main types:

- Differentiated thyroid cancers : derived from thyrocytes (papillary and vesicular or follicular for Anglo-Saxon authors) ;
- Cancers derived from the calcitonin-secreting C cell (medullary cancers);
- Undifferentiated or anaplastic cancers.[7]

Epidemiological studies show that vesicular cancers represent about 10 to 15% of cases and papillary cancers represent about 70% of all thyroid cancers and predominate in young subjects. They have a good prognosis. In the case of diffusion, it is essentially by lymphatic way with frequent lymph node invasion [5].

The prognosis of differentiated thyroid carcinoma is better than that of other epithelial cancers, but becomes worse if it is revealed by distant metastases with a 5-year survival rate of 40% and a 10-year survival rate of 27% [2]. The prognosis of vesicular carcinoma is relatively worse than that of papillary carcinoma [5].

The treatment and prognosis are varied, depending on the site of the primary lesion and the degree of metastatic spread. Further work-up to identify the primary site and estimate the stage and grade of metastatic involvement may be necessary [8].

The treatment of bone metastases of vesicular thyroid carcinoma is multidisciplinary combining surgery and/or metabolic radiotherapy with iodine 131 and/or external radiotherapy.

### IV. CONCLUSION

Mandibular metastases of thyroid origin are rare. Their discovery may be inaugural or secondary to a workup. Metastatic tumor of the mandible may be completely asymptomatic, which may go unnoticed or be discovered on radiographic examination of the bone. Their management must be multidisciplinary, including ENT surgeons, maxillofacial surgeons, nuclear medicine physicians and radiotherapists.

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